gical literature. In 1897 I collected a few hours in Oklahoma City, obtaining the following species:

Polygyra texasiana (Moric).	Planorbis bicarinatus (Say).
Polygyra monodon (Rack.).	Planorbis parvus (Say).
Helicodiscus lineatus (Say).	Physa sp.
Zonitoides minuscula (Binn.).	Lampsilis anodontoides (Lea).
Zonitoides arborea (Say).	Lampsilis purpuratus (Lam.).
Zonitoides nitida (Müll.).	Lampsilis gracilis (Bar.).
Euconulus fulvus (Müll.).	Lampsilis parvus (Lea).
Strobilops affinis (Pils.).	Quadrula lachrymosa (Lea).
Pupoides marginatus (Say).	Quadrula pustulosus (Lea).
Bifidaria armigera (Say).	Tritogonia tuberculata (Bar.).
Bifidaria contracta (Say).	Symphynota complanata (Bar.).
Lymnæa probably techella (Hald.).	Sphærium sp.
Planorbis trivolvis (Say).	Pisidium sp.

NEW SPECIES OF PISIDIUM.

BY V. STERKI.

Pis. minusculum, n. sp. Mussel minute, slightly oblique, medium inflated; superior margin short, moderately curved, bounded by slightly projecting, rounded angles; supero-anterior and posterior slopes little curved or straight, posterior end rounded, anterior a rounded angle situated much below the median longitudinal line, inferior margin rather well curved; beakes slightly posterior, rather large, rounded or somewhat flattened, moderately projecting over the hinge margin; surface with very fine, slight striæ, somewhat shining, color pale horn, shell translucent; hinge rather stout, cardinal teeth: the right strongly curved, its posterior part much thicker and grooved, left anterior rather short, well curved, the posterior longer, oblique, curved; "laterals" strong, the outer ones in the right valve well formed; ligament, short, thick.

Long. 2.2, alt. 1.8, diam. 1.5 mill.

Habitat: Fox river, Wisconsin, collected by the late Geo. H. Marston; types in the collection of the University of Wisconsin and that of the Carnegie Museum.

A number of specimens of this little *Pisidium* was received in 1895 and then recognized as a new species, and again in 1904, when

the Marston collection was revised. In spite of its small size, it ranges under the group Rivulina, and has resemblance, in shape, with forms of *P. compressum* Pr. and with *handwerkii* St.; from the latter it is easily distinguished: it is smaller, more oblique, its beaks are comparatively broader, more posterior, and less elevated, its striæ much finer and slighter.

Pis. fragillimum, n. sp. Mussel rather small, inequipartite, oblique, well inflated; superior margin short, nearly straight, bounded by angles from which the supero-anterior and posterior slopes fall down nearly straight at first, then passing over the rounded anterior and posterior ends into the moderately curved inferior margin; anterior part longer than posterior and anterior end narrower; beaks somewhat broad and full, well projecting over the superior margin, flattened on top; surface with very fine striæ and a few slightly marked lines of growth, dullish, pale horn-colored; shell subtranslucent, very thin and fragile; hinge very slight, short, but well formed, plate narrow; cardinal teeth thin, lamellar, nearly straight and longitudinal, the right long, its posterior end not or slightly thicker, the left ones rather long, nearly parallel; "laterals" slight, thin, the anterior short, their cusps close to the cardinals, especially so the left which is high, sharp pointed, abrupt, the right comparatively large; the outer ones of the right valve small but distinct and rather long; ligament slight.

Long. 3, alt. 2.6, diam. 1.8 mill.

Habitat: Lake Geneva, Wisconsin, sent for examination by Mr. F. C. Baker. Types are in the collection of the Chicago Acad. Sc., and that of the Carnegie Museum.

Although only ten specimens were seen, this *Pisidium* is quite distinct by its shape and the formation of the hinge; the shell is the thinnest and most fragile yet seen in *Pisidia*. The mussel has some resemblance in shape with *P. walkeri* St., but is much smaller, shorter, especially its anterior part, the surface sculpture is finer and slighter, and the hinge is quite different. Its closer affinities are yet unknown.

Pis. levissimum, n. sp. Mussel small, somewhat elongate, slightly oblique, moderately inflated; superior margin moderately curved, posterior rounded, sometimes with a slightly projecting, rounded angle at the scutum; inferior slightly curved, supero-anterior slope, at some distance from the beaks, in some specimens straight or

nearly so, in others obsolete; beaks rather broad, rounded or slightly flattened, little prominent over the upper margin; surface with very fine, slight, irregular striæ, shining; color pale horn to light amber, shell translucent to transparent; hinge very slight, long, curved, plate narrow; cardinal teeth: the right rather long, straight or slightly curved, longitudinal, its posterior end more elevated, slightly thicker and projecting downward over the hinge plate, the left ones rather long, nearly longitudinal and parallel, lamellar, the posterior (upper) slightly curved; "lateral teeth": the posterior much longer than the anterior, slight, curved, the right not raised in a cusp, the left with a slight cusp, the right anterior with a rounded, the left with a sharp and abrupt cusp, outer ones in the right valve wanting, or a mere trace of the anterior; ligament slight.

Long. 2.5, alt. 2.0, diam. 1.4 m., the largest; average: 2.3 m. long.

Habitat: Elk Rapids, Michigan. About 300 specimens were seen, at all stages of growth, most of them dead and bleached shells, sent for examination by Mr. F. C. Baker. Types are in the collection of the Chicago Acad. Sc. and that of the Carnegie Museum.

In shape and appearance, this *Pisidium* resembles a form of *tenuissimum* St., but is much smaller and slighter, and the formation of the hinge is radically different, as ascertained on quite a number of specimens of both species. In fact, the "lateral teeth" are quite different from those of all other *Pisidia* seen.

Pisidium subrotundum, n. sp. Mussel small, moderately and regularly to rather well inflated; outlines oval to short oblong to nearly circular; superior margin straight or nearly so, as especially noticeable in younger specimens; beaks slightly posterior, rather broad (in most forms), moderately projecting over the hinge margin, thus completing the round outlines, except for the slightly projecting angles at the scutum and scutellum; surface with very fine, subregular to irregular striæ and usually a few well marked lines of growth, dullish to somewhat shining; color horn or light amber to straw to whitish; shell translucent (in the horn colored) to opaque (in the light colored specimens), thin; hinge slight and teeth small; ligament rather short and slight.

Long. 3.2, alt. 2.7, diam. 1.8 (100 : 84.4 : 56.3) average.

Long. 3.6, alt. 3, diam. 2.3 (100 : 83.3 : 63.9) Albany riv.

Long. 2.8, alt. 2.5, diam. 1.8 (100 : 89.3 : 64.3) Isle Royale.

Hab.: New England, Anticosti Is., to Michigan. Jupiter river,

Anticosti Is., Albany river, Ontario (W. McInnes ed., both sent by J. F. Whiteaves); "Vineyard," Pawtuxet, R. I., (J. F. Perry); several places in Aroostook co., Me., (O. P. Nylander); Pine river, Marquette co., and Oswald Lake, Mich. (B. Walker); Isle Royale, Mich. (University of Michigan ; some other specimens from waters on the same island were under doubt). Specimens from Union springs, Ontonagon Co., Mich. (B. Walker), are of somewhat different shape: the beaks are more posterior and narrower, and the anterior end is less broadly rounded. One good specimen was among fossils from Arnold's Lake, Washtenaw Co., Mich. (B. Walker.)

Examples of this Pisidium had been in hand for years, unnamed, or a part doubtfully referred to other species. Since last year, several good lots from widely distant places came in and proved the species to be valid.

Pisidium friersoni n. sp. Mussel rather small, moderately inflated, outlines somewhat angular ; superior margin slightly curved or nearly straight, with projecting, rounded angles where passing into the supero-anterior and the posterior, which are well marked, and nearly straight, inferior moderately curved ; beaks scarcely posterior, projecting over the hinge margin, rather narrow, with a somewhat flattened central area ; surface with very fine, subregular striæ, dullish to somewhat shining, color pale horn to straw or whitish, shell translucent to opaque, thin, hinge comparatively rather stout ; right cardinal tooth curved, its posterior end thicker and grooved, left anterior quite short, somewhat V-shaped, posterior rather short, rather steep oblique ; outer laterals of the right valve distinct ; ligament short.

Long. 4, alt. 3.5, diam. 2.5 mill.

Hab. : Louisiana, Texas, New Mexico, Colorado.—In 1899, Mr. L. G. Frierson sent me quite a number of specimens at all stages of growth, collected at Frierson, La. ; they were regarded as representing a distinct species, but shelved. Since then I have seen the same from Dallas (Cincinnati Museum) and Comal Co., Tex., the Gallinas river, Las Vegas, N. Mex., and a few from Denver, Colo., (T. D. A. Cockerell).

The species seem to range under the group of *P. noveboracense* Pr., and so far as known, shows little variation. It has been named in honor of Mr. L. G. Frierson.

Erratum.—Nautilus, February issue, p. 119, line 2 from top : after *even*, there should be a comma.

New Philadelphia, Ohio.